REMARKS

Claims 56-59 and 95-97 are pending in the application, the independent claims being 56, 57, 59, 95, and 97.

Support for the clarifying amendments are found in the claims as originally filed. Support for the "secondary market" limitation is found in the specification at page 2 and page 13, lines 1 – 6. Support for the limitation "**wherein the assets of the traded fund are not publicly disclosed on a daily basis**" is found in claim 56 as originally filed and in the specification at page 4, line 25 – page 5, line 2; page 18, lines 22-24; and page 20, lines 9-12.

Election/Restriction

Claims 1-13, 17-28, 33-44, 47, 74-83, and 87-99 are canceled in response to the Examiner's restriction requirement.

Interview

Applicants thank Examiners Perry and Kyle for allowing an after-final interview on September 22, 2009. Named inventors Clifford Weber and Charles Baker attended with undersigned counsel. Mr. Baker gave a presentation explaining the invention and how it worked. Applicants explained why Dembo did not relate to traded funds or to using a proxy portfolio to estimate the value of a traded fund in order to withhold the identities of the assets in the traded fund from investors who trade the traded fund. Applicants further explained why the Jameson publication does not teach withholding the identities of the assets of a traded fund from investors who trade the traded fund. Finally, Applicants explained that the New York Times (1999) and Business Week (1999) articles that the Examiner cited cannot be prior art under 35 U.S.C. § 102(a) because that section requires publication "before the invention thereof by the applicant for patent." Those articles discuss and quote Gary Gastineau, one of the named inventors, who was discussing the claimed invention. Those articles were therefore not published "before the invention," as required by Section 102(a).

Examiner Kyle suggested that Applicants submit additional amendments, evidence, and argument to be considered in response to the final office action. Applicants agreed to do so.

Statement of the Invention and Second Baker Declaration

The Examiner cites prior art primarily disclosing risk factor analysis and portfolio modeling or replication, neither of which the applicants claim to have invented. None of the cited prior art, including Dembo and Gibbons, discloses or suggests the claimed combination of using risk factor analysis and portfolio modeling to create a proxy portfolio which may be used to estimate the value of a traded fund whose holdings are not known to investors who trade shares of the traded fund. In other words, the prior art fails to disclose or suggest using factor analysis and portfolio modeling to enable the secondary market trading of non-disclosed traded funds. The cited prior art does not anticipate the invention, nor would any combination of the prior art have rendered the claimed invention obvious to those having ordinary skill in the art, as amply demonstrated below and in the declarations submitted by Mr. Baker.

The invention allows for the creation and trading of actively managed exchange traded funds without revealing the assets in the fund. Actively managed funds such as traditional mutual funds have been known in the financial industry. In such funds an expert fund manager decides what securities the mutual fund should hold at any particular time, and trades during the day to achieve those positions. The assets in a mutual fund typically are not publicly disclosed in order to prevent "front running" – other investors anticipating the fund manager's trades in order to make the same trades before the fund manager to benefit from changes in the share price caused by the fund manager's investment – and "free riding" – other investors seeking to benefit from the fund manager's expertise without purchasing shares of the mutual fund. Both of these activities harm fund shareholders by, in the case of front running, reducing investment returns of the fund, and in the case of free riding, increasing cost by, in effect, causing the fund shareholders to subsidize the portfolio manager's fees on behalf of the free riders. Also known in the financial industry are exchange-traded funds (ETFs). ETFs differ from mutual funds in that

their assets are publicly disclosed daily through dissemination of the ETF creation unit portfolio. In fact, at the time of the invention, ETFs were all based on published indices. ETFs need this level of disclosure, or "transparency," because they are traded on secondary markets at negotiated prices. Buyers and sellers of ETF shares must have sufficient information during the trading day to assess whether the share prices are fair, and market makers must have sufficient information to hedge their trades in shares of the ETFs in order to provide reasonably liquid markets. Further, the transparency of the fund holdings, coupled with the fund's open-ended structure, provides an arbitrage mechanism that helps keep the secondary market prices close to the fair value.

This need for fund transparency (disclosure of the assets of the fund) has been a fundamental obstacle to the creation of actively managed exchange traded funds (AMETFs). (Second Baker Decl. ¶¶ 8-28). The present invention solves the transparency problem by creating a proxy portfolio that tracks a fund closely enough that the proxy portfolio can be used to estimate the price of the fund throughout the trading day. (Other commonly owned patents and applications by the same inventors claim hedging portfolios that can be used to hedge investments in shares of the fund).

The claims, as amended, all involve a "traded fund" or an "exchange traded fund," both of which issue shares that are traded "on a secondary market" (i.e., the shares are not just purchased from and redeemed by the fund itself). All claims involve using risk factor analysis to create a proxy portfolio for each type of fund, using the proxy portfolio to estimate a value for the fund wherein the proxy portfolio does not reveal the fund assets, and the fund assets are not disclosed to an investor who trades shares of the fund. The claims thus require both that shares of the fund are traded on a secondary market, and that the fund not be transparent.

The primary prior art the Examiner cites is Dembo, which discusses a "portfolio replication" process. There is, however, a fundamental difference between the "funds" in the present claims and Dembo's "portfolios." Fund shares are separate and distinct securities that can be traded, whereas portfolios are not. Dembo does not relate to traded funds, nor does Dembo disclose or suggest the desirability of avoiding transparency in traded funds. Dembo thus

fails to teach or suggest the limitation in the present claims that "the fund assets are not disclosed to an investor who trades shares of the fund on a secondary market."

Furthermore, while traditional actively managed mutual funds are not transparent, such funds are distinct from the present invention because investors can only buy or redeem shares directly from the fund once each day, at the exact Net Asset Value (NAV) of the fund. In the claimed invention, however, fund shares can be traded on secondary markets based on a value that is determined by the market, and may be estimated using a proxy portfolio. Thus three important differences distinguish actively managed mutual funds from the traded funds of the invention: (1) the traded funds of the invention can be sold throughout the trading day, not just once a day at market close; (2) the traded funds of the invention are traded on secondary markets, not just created and redeemed with the fund company; and (3) the price at which the traded funds of the invention are bought and sold is the price determined in the secondary market, not NAV.

The combination of (1) creating a proxy portfolio, (2) using the proxy portfolio to estimate the fund value on an intraday basis, and (3) not disclosing the fund assets to investors who buy and sell shares of the fund in a secondary market is new and would not have been obvious at the time of Applicants' invention. Applicants have cited ample unrebutted evidence of secondary indicia of non-obviousness, and offer further evidence of non-obviousness in the form of the second declaration of Charles A. Baker, filed herewith.

Secondary Considerations of Non-Obviousness

Under 35 U.S.C. § 103, obviousness requires that "the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art...." Applicants provide ample evidence about the financial industry at the time of the invention, and what those of ordinary skill in the art would have found obvious. It is clear from the unrebutted evidence that those of ordinary skill in the financial industry at the time of the invention were extremely concerned with the transparency problem, and that nobody else considered applicants' solution.

The Examiner cites *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007) for the proposition that "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." Applicants' invention is far from a combination of familiar elements according to known methods. It was completely unknown to use factor analysis to create a proxy portfolio that could be used to protect the non-transparency of a traded fund, and it was completely unknown to use such a proxy portfolio to estimate the value of a traded fund. This *KSR* edict simply does not apply here.

As the Supreme Court warned, "A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning." *KSR*, 550 U.S. at 421. The rejections in this Office Action reflect a strong hindsight bias. The Supreme Court endorsed its previous guidance to avoid hindsight bias by considering "secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc." *KSR*, 550 U.S. at 406 (quoting *Graham v. John Deere*, 383 U.S. 1, 17-18 (1966)). Applicants provided ample secondary considerations that the Examiner must weigh in evaluating non-obviousness. *See* MPEP 716.

- Applicants have shown market demand for the invention, an indicator of potential commercial success. (Second Baker Decl. at ¶¶ 13, 18).
- Applicants have shown actual demand for the invention in the form of two firms who currently license the invention and intellectual property from Applicants to enable actively managed exchange traded funds. (Second Baker Decl. at ¶ 25).
- Applicants have shown strong industry interest in the invention from mutual fund companies and quantitative experts. (Second Baker Decl. at ¶¶ 26-27).
- Applicants have shown a long felt but unresolved need for the invention. (Second Baker Decl. at ¶ 19).
- Applicants have shown the failure of others to achieve a solution that did not involve fund transparency. (Second Baker Decl. at ¶ 20).

- Applicants have shown that experts in the financial industry were skeptical that the industry-recognized transparency problems could be solved. (Second Baker Decl. at ¶ 21).
- Applicants have demonstrated industry praise for their solution. (Second Baker Decl. at ¶ 22).
- Applicants have demonstrated that the art taught away from any non-transparent solution. (Second Baker Decl. at ¶¶ 23-24).
- Applicants have demonstrated that the financial industry recognized a serious problem that was overcome by the Applicants' invention. (Second Baker Decl. at ¶¶ 12-19).
- Applicants have shown that the New York Stock Exchange considers the invention to be valuable and recognizes its non-obviousness. (Dallmer Decl. at ¶¶ 2-4).

Based on the foregoing evidence, Applicants have proved that their invention would not have been obvious. (Second Baker Decl. at ¶ 28).

Examiner's Response to Arguments

The Examiner wrote that "Applicants argue that Dembo does not apply because it does not cite a fund." Applicants actually argued "that the Dembo reference did not anticipate because it did not involve a ***traded*** fund." (Amendment of 5/26/09, p. 23, emphasis added). To the extent the Examiner misunderstood Applicants' argument, Applicants respectfully request reconsideration.

The Examiner states that "Dembo's portfolio is indeed traded...." (Office action at p. 13). Applicants respectfully disagree with the Examiner's reading of Dembo. The Examiner cited the portion of Dembo reading, "The method then uses the predefined set of available market instruments to identify a set of transactions that will create a replicating portfolio that will achieve the maximum risk-adjusted profit...." (Office action at pp. 13-14). The "set of

transactions" recited in Dembo does not make the portfolio discussed in Dembo the same as a "traded fund." Those of ordinary skill in the art would recognize that the discussion cited in Dembo involves transactions in the assets underlying the portfolio, not trading the portfolio itself as a separate and distinct security (Second Baker Decl. at ¶ 19). This error appears to underlie all the prior art rejections in the office action.

The Examiner wrote that because keeping assets secret was known for actively managed funds, this feature cannot be a distinguishing feature of the invention. (Office action at 6-7). But this feature is indeed a key distinguishing feature for exchange traded funds, and furthermore, using a proxy portfolio to estimate the value of a fund to keep the fund portfolio secret is entirely new and non-obvious.

First Baker Declaration

Mr. Baker has been working in the ETF field for a decade, thus establishing his expertise in the field of this invention. The fact that ETFs were known before the 3/27/2000 priority date for this patent application has no bearing on the patentability of these claims because these claims are not directed to known ETFs, but rather to a completely new class of traded funds. The 2001 SEC concept release serves as proof of industry demand because continuing demand for a solution to a problem after the problem was solved (without the solution being announced) shows the non-obviousness of the solution. The 2001 SEC concept release provides evidence of the non-obviousness of the pending claims.

The Examiner states that "Applicants wish to claim entirely different things from the technology to allow AMETFs." (Office action, page 7). But as Mr. Baker affirms, the present claims are, in fact, directed to the technology needed to allow AMETFs, which includes methods for calculating estimated values of the traded funds and methods for trading shares of the funds, all without revealing the fund assets. (Second Baker Decl. at ¶ 31). As those of ordinary skill in this art recognize, the technology to allow AMETFs includes systems and methods to allow trading of AMETFs. *Id.*

The Examiner states that "systems and methods for trading ETFs already existed…." (Office action at 7). While ETFs were known, the systems and methods of the rejected ***claims*** did not exist. No traded fund calculated a proxy portfolio that does not reveal the fund assets. No traded fund withheld the identities of the fund assets to an investor who trades shares of the fund. Instead, ETFs were based on publicly disclosed indices and portfolios.

The Examiner argues that the WSJ (5/16/00) article shows obviousness. Applicants disagree. First, simply by mentioning the desirability of combining the ***features*** of actively managed and exchange traded funds, the WSJ (5/16/00) article in no way shows ***how*** those features may be combined. The pending claims are directed to the actual implementation of the combination, not the idea of the combination *per se*. Indeed, far from working together "predictably," as the Examiner suggests, those skilled in the art questioned whether the combination could even work: "the question of whether the exchange-traded fund structure would work with a so-called actively managed fund remains open at many fund firms." (WSJ (5/16/00) at p. 1). This amounts to a teaching-away from combining actively managed funds with exchange traded funds, and is strong evidence of non-obviousness of the pending claims.

The Examiner notes that "Mr. Baker cites (11) that holdings of actively managed funds are not disclosed to the investor daily, but are disclosed less frequently." (Office action, page 9). This is correct, as noted on page 3, lines 15-18 of the application as filed. The Examiner incorrectly interprets the pending claims as requiring that the identities of the assets of the traded fund are never disclosed. Those of ordinary skill in the art would not read this limitation in this way. In fact, as disclosed in the application, the problems of "free riding" and "front running" are avoided by periodic (quarterly or semi-annually) disclosure of the holdings, with a lag (e.g., 60 days). (Application at page 3, lines 15-18). Those of ordinary skill in the art, reading the claims in light of the specification, would recognize that the "identities of the traded fund assets are not disclosed to an investor who trades shares of the traded fund" should not include the artificial "never disclosed" limitation that the Examiner appears to require. (Second Baker Decl. at ¶ 33).

The Examiner argues that the WSJ (1/11/2005) article does not show non-obviousness. Applicants disagree. As the Examiner admits, "overcoming issues of transparency" is a main hurdle according to the WSJ (1/11/2005) article. This article thus establishes that "transparency" is a "hurdle" – therefore Applicants' invention overcoming this "hurdle" shows that the invention would not have been obvious. The way that the Applicants overcame this "hurdle" was to provide sufficient information to value the fund without requiring transparency. (Second Baker Decl. at ¶ 14). Nothing in the WSJ (1/11/2005) article suggests a tracking portfolio. The WSJ article teaches away from the claimed invention.

The Examiner states that "Applicants appear to be claiming, by using this 2005 article, an effective date for the invention far after the dates of their continuation-in-part parents." (Office action at page 10). Applicants respectfully disagree. The article points out that in 2005, long after Applicants' date of invention, the industry ***still*** did not know how actively managed exchange traded funds would work. This is evidence that, at the time of the invention in 2000, Applicants' claimed solution would not have been obvious.

The Examiner states that "The only issue was regulatory reform, not actually creating the proxy or estimating the value of the fund using the proxy...." (Office action at page 11). The Examiner is wrong that the "only issue was regulatory reform" – those of ordinary skill in the art recognize that there were substantial technical issues having nothing to do with regulatory reform, and that regulatory issues in fact resulted from the lack of solutions to the technical hurdles. (Second Baker Decl. at ¶ 36). By casting the problem as "creating the proxy or estimating the value of the fund using the proxy," the Examiner improperly uses hindsight analysis. Nobody at the time of the invention had even considered creating a proxy portfolio or estimating the value of a traded fund using a proxy portfolio. (Second Baker Decl. at ¶¶ 12-28). Applicants cited substantial contemporaneous and post-invention evidence, but the Examiner cites no evidence that anyone had thought of using a proxy portfolio to solve the transparency issue. Indeed, the Examiner only alleges that the risk factor modeling approach used to create a proxy (tracking) portfolio technology was known, which Applicants do not dispute. This

technology was never applied to create a proxy portfolio that could be used to allow for non-transparent traded funds, however, and Applicants have proven that it would not have been obvious to do so.

The Examiner argues that the WSJ Europe article does not support non-obviousness. The Examiner again incorrectly casts the problem as simply combining actively managed funds with exchange traded funds. The problem, as stated by the WSJ Europe article, was how to avoid front running and still provide the market with enough information to trade shares of the fund. Front running is an issue that arises if the assets of a fund are disclosed, and therefore front running is an element of the issues with transparency. The WSJ Europe article acknowledged that avoiding front running while disclosing enough information to trade was a problem yet to be solved. Applicants provided a solution. The WSJ Europe article is thus evidence of non-obviousness. (Second Baker Decl. at ¶ 37).

The Examiner alleges that Quill "flatly contradicts [Mr. Baker's] repeated thesis that lack of technology is the major hurdle." Applicants disagree. The quote from Quill is in the context of "index-based products," not actively managed products, and indeed at the time of Quill's writing, regulatory delays were perceived to be a "hindrance" to ETFs. Even assuming, however, that actively-managed traded funds would face the same regulatory hurdles as index-based products, it does not follow that technology was not a hurdle for actively managed traded funds and therefore Quill does not contradict Mr. Baker's tenets. In fact, Quill's description of the issues with the development of the ETF market, which the Examiner relies upon to contradict Mr. Baker, did not, in fact, come true – index-based ETFs have been extremely successful. (Second Baker Decl. at ¶ 38).

The Examiner argues that Quill contradicts Mr. Baker's assertion that there is strong industry demand for actively managed exchange traded funds. Applicants disagree. Quill acknowledges that only "31% said that they don't even see the need to create them." But the majority, ***53%***, perceived sufficient demand that they predicted AMETF products on the markets

within two years. Most industry experts recognized a need indicating that there is clearly a strong industry demand. (Second Baker Decl. at ¶¶ 12-28, 38).

Rejections Under 35 U.S.C. § 112, First Paragraph – Written Description

The Examiner rejected claims 56-59 and 95-97 under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the written description requirement. The specific language the Examiner points out in each of the claims is, "the identities of the traded fund assets are not disclosed to an investor who trades shares of the traded fund." The specification provides sufficient support for this limitation. For example:

- "One difficulty with implementing a system for intra-day market trading of AMFs is that investors have insufficient information on which to base negotiated trading prices because they currently have no way of knowing either the specific assets in the AMF portfolio or their NAV." (Page 3, line 24 – page 4, line 2).
- "market participants use the second set of securities to price or hedge a position taken in the first set of securities without knowing the composition of the first set of securities." (Page 7, lines 5-6).

The specification explicitly states that the invention includes an investor trading a "first set of securities without knowing the composition of the first set of securities." Those of ordinary skill in the art would recognize this as providing sufficient written description support for the limitation that "the identities of the traded fund assets are not disclosed to an investor who trades shares of the traded fund."

"The examiner has the initial burden of presenting by a preponderance of evidence why a person skilled in the art would not recognize in an applicant's disclosure a description of the invention defined by the claims [and must establish] a prima facie case by providing reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the application as filed." MPEP 2163.04. The Examiner, in this case, has failed to carry this initial

burden and has failed to provide any reasons why a person skilled in the art would not have recognized Applicants' possession of the invention. Applicants have provided evidence to the contrary.

The Examiner also appears to reject the claim language "a traded fund whose assets are not publicly disclosed on a daily basis." This claim language appeared in claim 56 as originally filed, and was not added by amendment. The rejection of this claim language for written description support is improper. MPEP 2163.03.

Rejections Under 35 U.S.C. § 112, First Paragraph – Enablement

The Examiner rejected claims 56-59 and 95-97 under 35 U.S.C. § 112, second paragraph, as allegedly failing to be enabled by the disclosure. This rejection is improper because it does not rely on properly construed claims as required by MPEP 2164.04. The rejection focuses on the specification and all the possible ways that the methods disclosed in the specification might be used regardless of whether those methods are covered by the claims.

The Examiner alleges the Applicants fail to "address the question of how risk factor series from at best daily reports can yield a model 'substantially' matching every ten minutes." (Office action at p. 19). The claims do not require such a model, rather they require "a proxy portfolio having substantially the same sensitivity coefficients as the traded fund." If a proxy portfolio generated from daily reports do not yield a model with "substantially the same sensitivity coefficients as the traded fund," then it would fall outside of the scope of the claims. Those of ordinary skill in the art would be able to create "a proxy portfolio having substantially the same sensitivity coefficients as the traded fund" using the information provided in the specification. (Second Baker Decl. at ¶¶ 44-45).

The Examiner also "notes that the secrecy limitation is virtually impossible," citing an extreme example of a tiny fund having only 10 investments, only one of which is traded. (Office action at page 19). The Examiner concludes "the proxy MUST under certain circumstances reveal the target fund…." (Office action at page 19). But those circumstances would not be

covered by the claims, which require that "the proxy portfolio does not reveal the traded fund assets." Those of ordinary skill in the art would recognize that the specification properly enables the claimed invention.

Rejections Under 35 U.S.C. § 112, Second Paragraph – Indefiniteness

Claim 56 was rejected for lacking antecedent basis for "fund" rather than "traded fund." (Office action, page 20). Antecedent basis is inherent since "traded fund" is the only "fund" previously referred to in the claims. Applicants have nevertheless amended the claims 56 and 95 to refer to "traded fund" and "exchange traded fund," respectively. These amendments do not change the scope of the claims.

Claim 56 was rejected for reciting "a set of risk factors" and "one of the risk factors." Antecedent basis is inherent here also, since the only risk factors previously referred to was "a set of risk factors." Applicants have nevertheless amended claim 56, 57, 59, 95, and 97 to refer to one of the risk factors "in the set of risk factors." These amendments do not change the scope of the claims.

Claims 56 and 57 were rejected for reciting "the traded fund assets." This recitation has antecedent basis in "a traded fund whose assets," however, for clarity, the recitation has been amended to read "assets of the traded fund."

Claim 56 was rejected for reciting the "storing" limitation twice. One of the two recitations has been deleted by amendment.

Claims 96-97 were rejected for reciting "the fund" whereas claim 95 recites "exchange traded fund." Claim 97 is not dependent on claim 95, and thus "the fund" is proper in that claim. The term "exchange traded fund" in claim 95 is the antecedent basis for "the fund" in claim 96. Applicants have nevertheless amended claim 96 to recite "the exchange traded fund."

Claim 96 was rejected for reciting "disseminating the estimated value for the fund…." Applicants have amended this claim to recite "publicly disclosing."

Claim 97 was for reciting "substantially the same." "The test for definiteness under 35 U.S.C. 112, second paragraph, is whether 'those skilled in the art would understand what is claimed when the claim is read in light of the specification.' *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986)." MPEP 2173.02. Those of ordinary skill in the art would understand what is meant by "substantially the same" when that term is read in light of the specification. (Second Baker Decl. at ¶ 44). The specification makes clear that the goal of the invention is to provide sufficient information to the marketplace so that shares of a fund can be traded without knowledge of the exact value or composition of the fund. (Application at p. 7, lines 2-6). As the Examiner recognized, the specification indicated that the difference between the proxy value and the fund value should be "an acceptably small difference." (Office action at 21, citing Application at p. 20, line 15). Those of ordinary skill in the art understand how accurately the value of shares must be known in order to allow trading of the shares, and that this is what is achieved by making the "proxy portfolio having substantially the same sensitivity coefficients as the fund." (Second Baker Decl. at ¶¶ 44-45).

Finally, the claims were rejected for reciting "shares" of the various types of funds in the claims. Those of ordinary skill in the art would recognize that at least some "funds" have "shares." Applicants' affirmatively reciting "shares" of the funds in the claims would clearly indicate to those of ordinary skill in the art that the particular fund recited in the claims have "shares" and that those shares are "traded" by an investor. *See* MPEP 2173.05(e) ("Inherent components of elements recited have antecedent basis in the recitation of the components themselves."). Applicants thus request that this rejection be withdrawn.

Rejection Under 35 U.S.C. § 101 – Statutory Subject Matter

Claim 56 was rejected under 35 U.S.C. § 101 as allegedly directed to non-statutory subject matter. Applicants request reconsideration. The "traded fund" of claim 56 clearly falls under the statutory "manufacture" class. Applicants question the legal authority for rejecting a

non-method claim under § 101. The Supreme Court has held that statutory subject matter includes "anything under the sun that is made by man." *Diamond v. Chakrabarty*, 447 U.S. 303 (1980). Furthermore, the claim is clearly tied to a "machine," making it eligible subject matter under the Federal Circuit's *Bilski* test. *In re Bilski*, 545 F.3d 943, 88 U.S.P.Q.2d 1385 (Fed. Cir. 2008).

Double Patenting

The Examiner rejected claims 56 and 96 for obviousness type double patenting over U.S. Patent Nos. 7,571,130; 7,305,362; 7,099,838; and 6,941,280 and provisionally rejected claims 56 and 96 for obviousness type double patenting over pending U.S. Patent Applications Nos. 12/198,003 and 09/815,589. Applicants file herewith a terminal disclaimer obviating these rejections.

Rejection Under 35 U.S.C. § 102 – Anticipation

Claim 56 was rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Dembo (U.S. Pat. No. 5,799,287). (Office action, pages 27-30). Applicants request reconsideration.

Dembo does not involve "a traded fund." The Office Action cites no evidence that the portfolios discussed by Dembo are "traded funds," and the evidence of record conclusively demonstrates they were not. Applicants do not dispute that Dembo discusses portfolio modeling, and creating a portfolio with one set of securities that can model the performance of a different portfolio with a second set of securities. Applicants further do not dispute that the traded fund of claim 56 includes a portfolio, which just means that it includes a set of financial instruments held in proportion to a set of weights. This is where the similarity ends, however, because Dembo does not teach or suggest that any portfolio is held by a traded fund, and it does not teach that the second portfolio is not.

The Office Action compares the disclosure of the present invention to certain discussions in Dembo. The proper comparison is between what is *claimed* in the present application and what is disclosed in Dembo. Page 28 of the Office Action purports to find a disclosure

corresponding to the claim limitation "an estimated value of the fund is calculated...." In the context of the claim, the estimated value is calculated by using the proxy portfolio. The Office Action, however, cites claim 7 of Dembo, which recites computing "a current price for a financial instrument consistent with a current price of a known market portfolio." Thus, whatever Dembo is doing in claim 7, it explicitly relates to "a known market portfolio." The "estimated value" calculation of the claimed invention, on the other hand, explicitly relates to a traded fund where the "identities of the assets of the traded fund are not disclosed to an investor who trades shares of the traded fund." Dembo does not teach or suggest that any fund portfolio is kept secret from any investor who trades that fund portfolio.

Dembo does not disclose or suggest creating a replicating portfolio for a target portfolio where "the identities of the traded fund assets are not disclosed to an investor who trades shares of the traded fund," as claimed. The Office Action states "That no knowledge of the target's holdings are ever stated or used in the reference's method makes clear that this negatively stated limitation is met." Applicants disagree. Dembo explicitly states that "a portfolio manager controlling a given portfolio (i.e., a target portfolio) has the objective of constructing a replicating portfolio that behaves identically to the target portfolio under all possible future states of the world." Col. 2, lines 44-48. Those of ordinary skill in the art reading Dembo would understand that the portfolio managers "controlling" the target portfolios would know the target portfolio's compositions. (Second Baker Decl. at ¶ 42). The Examiner thus mistakenly asserts that "<u>only</u> the target return or other attribute is known...." (Office action at p. 30). The Examiner is also mistaken in asserting that "the possible scenarios clearly include known sensitivities and unknown identities of assets to all investors and members of the public." (Office action at p. 30). Those of ordinary skill in the art would not read this assertion into Dembo because Dembo does not relate to a traded fund and Dembo neither discloses nor suggests any desirability of keeping the identities of the assets secret from any fund investors. (Second Baker Decl. at ¶¶ 41-43).

Rejections Under 35 U.S.C. § 103 – Obviousness

Connor, Jameson, and Dembo

Claim 56 was rejected under 35 U.S.C. § 103(a) as allegedly having been obvious from Connor *et al.*, "The Arbitrage Pricing Theory and Multifactor Models of Asset Returns," forthcoming in Finance Handbook (September 1992) ("Connor") in view of Jameson (U.S. Patent App. Pub. No. 2004/0059621) and Dembo, *supra.*

The Examiner writes that "Connor teaches a traded fund whose assets are not publicly disclosed on a daily basis (the document is based on APT's assumption that asset returns follow a factor model, where (page 5) co-movements are caused by economy-wide shocks; no knowledge of particular securities by the public is stated)." (Office action at pp. 30-31). Applicants disagree. The claims require that "assets are not publicly disclosed on a daily basis" and that "the identities of the assets of the traded fund are not disclosed to an investor who trades shares of the traded fund." Connor never discloses or suggests that the portfolios it discusses are "traded funds" as required by claim 56. Nor does Connor disclose or suggest withholding the identities of the assets of the traded fund from an investor who trades shares of the traded fund. Applicants concede that Connor relates to a multi-factor risk model used to create a model portfolio, much the same as Dembo. But Connor neither discloses nor suggests using such a model to create a proxy portfolio in order to estimate the value of a traded fund and to withhold the specific assets in the traded fund from an investor who trades shares of the traded fund, as claimed.

The Examiner writes that "Jameson teaches a traded fund whose assets are not publicly disclosed on a daily basis." Applicants disagree. Jameson reads, "Some investment institutions need to replicate a portfolio, ***but cannot obtain the portfolio's individual financial instruments (FIs).***" (Jameson at ¶ 152) (emphasis added). Jameson clearly states that the institutions ***cannot obtain*** the financial instruments, not that the institutions do not know what those instruments are. Indeed, Jameson's methods explicitly require foreknowledge of the specific assets for portfolio replication. Example 4 refers back to "the portfolio example immediately above." (Jameson ¶ 153). This "portfolio example immediately above" refers to Example 3, which states that an

"investor owns various financial instruments (FIs), cash, stocks, bonds, derivatives (options), commercial paper, etc. The investor wants to maximize the VNM-utility portfolio-value as of a year from now." (Jameson ¶ 146). Jameson clearly contemplates that the investor knows the identities of the "various financial instruments (FIs), cash, stocks, bonds, derivatives (options), commercial paper, etc." that Jameson explicitly states that the "investor owns." Further, Jameson clearly states that the Genuine Portfolio's (GP's) Financial Instruments (FIs) are known: "Scenarios are generated using state-of-the-art techniques. Each scenario comprises single-period performance samples ***for each of the GP's FIs***, and for each of the FIs that can be used in the IP." (Jameson, ¶ 153, emphasis added)

The Examiner alleges that Dembo teaches "calculating the estimated value of the traded fund based on the value of the proxy portfolio." (Office action at p. 33). Dembo does not teach estimating the value of the target portfolio with the replicating portfolio. There would be no need to do so because Dembo's target portfolio is completely known and not traded as a distinct security. (Dembo at col. 5, lines 8-18). The Examiner cites the claims; col. 4, lines 7-10 and 50-53; col. 5, line 8 – col. 6, line 18; col. 7, lines 63-65; col. 8, lines 8-11 and 43-52; and col. 10, lines 3-10. Many of the cited portions merely describe why and how Dembo creates a "replicating portfolio." (Dembo at col. 4, lines 7-10 and 50-53; col. 5, line 8 – col. 6, line 18; col. 8, lines 43-52). Other cited portions appear to have no relation to the claim limitation at issue. (Dembo at col 7, lines 63-65; col. 8, lines 8-11; col. 10, lines 3-10). While the claims at least refer to "computing a price for the replicating portfolio" (claim 3), they do not suggest using that price to estimate the value of the traded fund (or even Dembo's non-traded "target portfolio").

Sharpe, Business Week, and New York Times

Claim 56 was rejected under 35 U.S.C. § 103(a) as allegedly having been obvious from the combination of Sharpe, Asset Allocation: Management Style and Performance Measurement,

J. Portfolio Management, pp. 7-19 (1992) ("Sharpe") in view of a Business Week ("BW") article and a New York Times ("NYT") article, both from 1999.

The Examiner states that "Sharpe teaches a risk model consisting of exposure to 12 asset classes and determining the exposures from multiple regression of a fund's returns 'a method using only returns' which Sharpe contrasts with 'detailed analysis of securities held by the fund,' showing that the knowledge of the securities is not needed for his method." (Office action at p. 34). Even if correct, this would not be germane to the claimed invention. No claim requires that the proxy portfolio be computed without knowledge of the assets of the traded fund. Instead, the claims require that "the assets of the traded fund are not disclosed to an investor who trades shares of the traded fund," a limitation not taught or suggested by Sharpe.

The Examiner partially quotes the BW article. The full quote reads, "Gary Gastineau, senior vice-president at the American Stock Exchange, which is home to the 30 existing funds, predicts that exchange-traded clones of actively managed mutual funds are 18 months away." Gary Gastineau is one of the named inventors on the present application, and he was referring to the very project that resulted in this application and these claims. (Third Baker declaration at ¶¶ 3-4). Most importantly, however, Mr. Gastineau did not disclose how such "exchange-traded clones of actively managed mutual funds" could be made. Indeed, the BW article teaches away from the claimed invention because it states that "Whereas mutual-fund shares are priced daily, exchange-traded funds' minute-by-minute fluctuations are on the ticker." This would suggest that mutual fund-style active management would prevent such funds from being exchange traded. (Second Baker Decl. at ¶ 34).

The NYT article similarly provides evidence of non-obviousness by teaching away from the present invention when it states that "A fund's holdings are typically disclosed only quarterly or semiannually, but many investors would demand some minute-by-minute data on the value of a fund's holdings in order to trade it." (NYT article, last full ¶).

Furthermore, to the extent the Examiner is relying on Mr. Gastineau's quotes for this rejection, these statements were quoted less than one year before the earliest priority date of this

application (March 27, 2000), and thus do not constitute prior art. (The BW article was dated November 15, 1999, and the NYT article was dated September 19, 1999) (Third Baker Declaration at ¶¶ 2-4).

Remaining Claims

The Examiner rejected claims 57-59 and 95-97, but failed to provide any analysis independent of that provided for claim 56, except in a discussion of Gibbons (1984). Applicants thus refer to the rebuttal arguments above, but separately address the Examiner's arguments regarding Gibbons. The Examiner states that "Gibbons traces the use of factor analysis to make up a portfolio (page 2-3) with an unobservable target (page 6, 17), and makes explicit how Sharpe's analysis can be used to create a proxy portfolio using weights derived from the regression, when the target portfolio is not known." (Office action at p. 36).

Gibbons discusses methods of testing the Capital Asset Pricing Model (CAPM), and improving those tests by reducing the error introduced by using a "proxy for the market portfolio" rather than the "market portfolio" itself, which is "unobservable." (Second Baker Decl. at ¶¶ 46-51). Those in the financial industry understand that Gibbons' "unobservable market portfolio" discussion relates to the fact that the "market portfolio" must include every valuable asset in the world, and thus no such portfolio can exist or be known, except as a theoretical construct. (Second Baker Decl. at ¶ 47). Therefore, obviously, the "market portfolio" cannot be traded, and cannot satisfy the "traded fund" limitation. (Second Baker Decl. at ¶ 49). Furthermore, the "unobservable" aspect of the market portfolio cannot satisfy the claim limitation that "the assets of the traded fund are not disclosed to an investor…." The unobservable market portfolio cannot be known by anyone, whereas the traded fund can be known, but the identities of the assets are not disclosed. There is no aspect of non-disclosure associated with Gibbons' unobservable market portfolio. (Second Baker Decl. at ¶ 48). Finally, the "proxy for the market portfolio" discussed by Gibbons is different from the "proxy portfolio" of the pending claims because the "proxy portfolio" must have "substantially the same sensitivity

coefficients as the traded fund." Gibbons' "proxy for the market portfolio," however, is expected to be different than the "market portfolio" – the whole point of Gibbons is to account for this difference. (Second Baker Decl. at ¶ 50). And the "proxy portfolio" of the claims is used to calculate the "estimated value of the traded fund." Gibbons "proxy for the market portfolio," on the other hand, is not used to estimate the value of the "market portfolio." (Second Baker Decl. at ¶ 50).

Gibbons also refers to "hedge portfolios," which are similar to the unobservable "market portfolio" in that they may be unobservable. (Second Baker Decl. at ¶ 48). In order to create a model for unobservable "hedge portfolios," Gibbons suggests combining multiple "mutual funds," which are not traditional mutual funds, but are rather analogous to Gibbons' "proxy for the market portfolio," in that they are substitutes for an unobservable "hedge portfolio." (Second Baker Decl. at ¶ 48).

The Examiner improperly relied on "official notice" in rejecting claims 58 and 96, which require disseminating an "estimated value" throughout the trading day. *See* MPEP 2144.03 ("It would <u>not</u> be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known.") (emphasis in original). The "estimated value" referred to in claims 58 and 96 refer to the estimated value computed from the proxy portfolio which, as shown above, was previously unknown in the art. (Second Baker Decl. at ¶ 14).

fConclusion

Prompt and favorable consideration of this Response and Amendment is respectfully requested.

Respectfully submitted,

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